

1
2
3 ABSTRACT
4
5
6

7 A borehole drilling and survey assembly includes a
8 drill string of magnetic material, a non-magnetic
9 drill collar, and a non-magnetic rotary drilling
10 system including a drill bit. A near-bit survey
11 instrument is located in the rotary drilling system
12 at a fixed distance from the junction of the drill
13 string and the drill collar. A second survey
14 instrument is located in the drill collar at a fixed
15 distance from said junction. The survey instruments
16 measure the local values of the component of the
17 earth's magnetic along the borehole axis, and these
18 values are processed to remove the magnetic effects
19 of the drillstring. The survey instruments
20 optionally also measure gravity vector components to
21 enable borehole heading to be derived.
22
23